BOTANY.—*Emendations to the descriptions of* Taphrina lethifera *and* T. aceris *on maple* (Acer).[1]

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Taphrina lethifera (Peck) Sacc. (*Ascomyces lethifer* Peck) (5) and *T. aceris* (Dearn. and Barth.) Mix (3) (*Exoascus aceris* Dearn. and Barth.) (1) are the only two species of *Taphrina* described on maple in the United States, as previously noted (2). The first species was discovered on mountain maple (*Acer spicatum* Lam.) at Elizabethtown, N. Y., by Charles H. Peck, about 50 years ago (Fig. 1, A). The other species occurs on Rocky Mountain hard maple (*A. grandidentatum* Nutt.) in Utah and was described in 1917 from specimens collected in Parley's Canyon by E. Bartholomew and A. O. Garrett. Further study of these two species reveals that each possesses certain characters not mentioned in the original descriptions. In particular, each possesses a stalk cell (Fig. 2) and this is not mentioned in the diagnosis of either species. The descriptions of these two little known fungi are accordingly here emended. Additional historical information at hand relative to *T. aceris* is given.

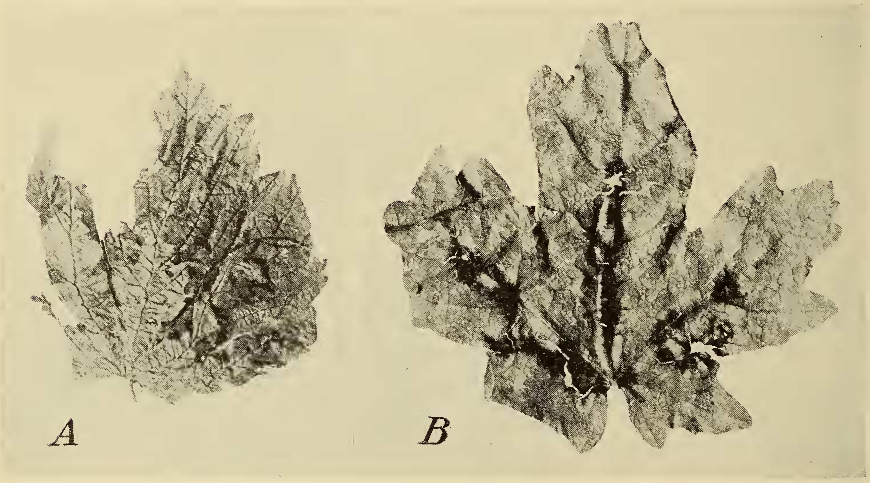

Fig. 1.—*A. Taphrina lethifera* on mountain maple, Elizabethtown, Essex County, N. Y., C. H. Peck, June 1886 (part of type, contributed by H. D. House). ×1. *B. T. aceris* on Rocky Mountain hard maple, Bear Lake, Utah, July 6, 1908, L. H. Pammel. ×1.

Taphrina lethifera (Peck) Sacc.

Ascomyces lethifer Peck.

Indefinite, occupying part or all of the leaf causing wrinkling, (on dry

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[1] Received July 7, 1938.

specimen) "amber brown" to "Brussel's brown," and darker;[2] asci often occupying the whole lower surface of the leaf, and suffusing it with a glaucus bloom, cylindrical, obtuse, or subtruncate, 36–50×14–20μ; stalk cell 14–20×17–25; spores often elliptical 4–5×3–7μ; conidia numerous subglobose to elliptical, of various sizes, often 2–4×3–5μ.

On living leaves of mountain maple (*Acer spicatum*). Elizabethtown, Essex Coounty, N. Y., June, 1886, C. H. Peck.

Peck made the following remarks relative to his new species:

"This species is very distinct from *A. polyspora*," (now known as *Taphrina polyspora* (Sorok.) Johans), "which forms definite spots. The attacked leaves soon turn black, wither and die. Sometimes all the leaves on a branch are affected and the fungus then causes a veritable blight."

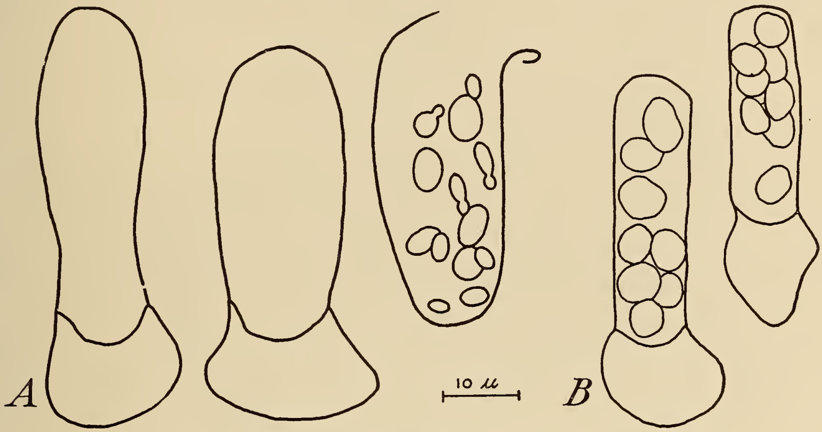

Fig. 2—Asci of *Taphrina lethifera* (*A*) and *T. aceris* (*B*).

The writer has found this species, as well as *Taphrina aceris*, to be distinct from *T. polyspora* of Europe, which also has a large ascus, but for which no stalk cell is known. The *Taphrina* reported a number of years ago under the name of *T. lethifera* (7), on red maple (*Acer rubrum* L.), is not this species but the undescribed *Taphrina* noted by the writer on this host (2).

Although not referred to in the original description, *Taphrina aceris* was actually first discovered in 1908 by L. H. Pammel (4), who stated that he found the fungus abundant in the "Wasatch Mountains near Logan, especially in Logan Canon, and along the adjacent streams emptying into the Logan River" (fig. 1, *B*). He stated also that "in some cases the trees were entirely defoliated, in others a majority of the leaves were attacked."

Pammel did not name the fungus, but he made a detailed study of it, comparing it with two European species, specimens of which were sent him by W. G. Farlow.[3] Illustrating all three species, Pammel represented for the western species an ascus with a basal cell, and in the asci, from 9 to 14 spores or conidia of more or less uniform size. He did not make comparisons with *T. lethifera*, which he indicated was apparently different, and which Farlow also found evidently to be different after comparing the two. His communication of May 23, 1911,[4] to Pammel following the receipt and examination of a specimen of the *Taphrina* from Utah, is quoted as follows:

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[2] The color readings given in quotations are based on Ridgway's Color Standards (6)

[3] These specimens were transmitted with Farlow's letter of May 10, 1911 to Pammel. This letter had the two specimens, together with a second letter of May 23, 1911, to be referred to presently, are attached to the herbarium sheet bearing the Pammel specimens from Utah, lent from the Herbarium of the Iowa State College.

> Your specimen of Taphrina on *Acer grandidentatum* reached me safely, and is very interesting. I have compared" it "with *T. lethifer* but it does not seem to be that species which has spores of different shape. Your fungus is perplexing for the reason that it has asci with 8 spores and others which are myriasporic. The described species on *Acer* are generally given as having some 8, some ∞ spores, but in Giessenhagen the remark is made that when generally found, it has only ∞ spores. From this one can infer that it sometimes has only 8 spores. As a matter of fact all the ∞ sporic species have only 8 spores when young enough.

Taphrina aceris (Dearn. and Barth.) Mix.

Exoascus aceris Dearn. and Barth.

Spots often located on veins sub-circular, irregular, .5–1.5 cm, or extending a greater or less distance along veins or leaf margins and spreading to at least 1 cm in width, "cinnamon buff," "cinnamon," to "snuff brown" or "bister"; asci amphigenous, usually hypophyllous, numerous, short clavate or cylindric, 23–40×8–13μ (or after Pammel rounded 20–18×12–18μ); stalk cell 8–16×8–16; spores 3–5×4–6μ globose, subglobose or elliptical.

On living leaves of *Acer grandidentatum* Nutt., not causing deformation, but sometimes causing complete defoliation. BEAR LAKE (Wasatch Mts. near Logan, Utah, July 6, 1908, L. H. Pammel (68580 Myc. Coll. B.P.I.); PARLEY'S CANYON, Salt Lake Co., Utah, June 29, 1915. E. Bartholomew and A. O. Garrett. (E. Barth. Fungi Columbiani 5018. Type).

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[4] See footnote 3.